

ABSTRACT

LIQUID CRYSTAL MICRO DISPLAY

The invention relates to liquid crystal matrix micro displays, and in particular those which are embodied on a monolithic silicon substrate in which are integrated the electronic circuits for control of a matrix array of liquid crystal cells.

The matrix comprises, for each dot at the crossover of a row and of a column, an elementary electronic circuit for controlling an elementary liquid crystal cell situated at this crossover. This circuit comprises at least one storage capacitor (C_a , C_b) for storing for the duration of an image frame an analogue voltage applied by the column, a first terminal of the storage capacitor being linked to the gate of the transistor (T_a , T_b), and, in series between two voltage supply terminals, an elementary current source ($SC1$) and a switching transistor (T_a , T_b), the drain of the switching transistor being linked to the liquid crystal cell (LC). A periodic voltage ramp, common to all the cells of at least one row, is applied to a second terminal of the storage capacitor of the cells of this row.

Figure for the abstract: Figure 2